

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/006,366

DATE: 12/17/2001
TIME: 11:09:46

Input Set : A:\RTS-0332 Sequence Listing.txt
Output Set: N:\CRF3\12172001\J006366.raw

ENTERED

6 <110> APPLICANT: C. Frank Bennett
7 Kenneth W. Dobie
9 <120> TITLE OF INVENTION: ANTISENSE MODULATION OF MHC CLASS II TRANSACTIVATOR
EXPRESSION

11 <130> FILE REFERENCE: RTS-0332
C--> 13 <140> CURRENT APPLICATION NUMBER: US/10/006,366
C--> 13 <141> CURRENT FILING DATE: 2001-11-05
13 <160> NUMBER OF SEQ ID NOS: 98
16 <210> SEQ ID NO: 1
17 <211> LENGTH: 20
18 <212> TYPE: DNA
19 <213> ORGANISM: Artificial Sequence
21 <220> FEATURE:
23 <223> OTHER INFORMATION: Antisense Oligonucleotide
25 <400> SEQUENCE: 1 20
26 tccgtcatcg ctctcaggg
29 <210> SEQ ID NO: 2
30 <211> LENGTH: 20
31 <212> TYPE: DNA
32 <213> ORGANISM: Artificial Sequence
34 <220> FEATURE:
36 <223> OTHER INFORMATION: Antisense Oligonucleotide
38 <400> SEQUENCE: 2 20
39 atgcattctg cccccaagga
42 <210> SEQ ID NO: 3
43 <211> LENGTH: 6672
44 <212> TYPE: DNA
45 <213> ORGANISM: Homo sapiens
47 <220> FEATURE:
49 <221> NAME/KEY: CDS
50 <222> LOCATION: (139)...(3531)
52 <400> SEQUENCE: 3
53 cctcccaact ggtgactggt tagtgatgag gctgtgtgct tctgagctgg gcatccgaag 60
54 gcatccttgg ggaagctgag ggcacgagga ggggctgcca gactccggga gctgctgcct 120
55 ggctgggatt cctacaca atg cgt tgc ctg gct cca cgc cct gct ggg tcc 171
56 Met Arg Cys Leu Ala Pro Arg Pro Ala Gly Ser
57 1 5 10
59 tac ctg tca gag ccc caa ggc agc tca cag tgt gcc acc atg gag ttg 219
60 Tyr Leu Ser Glu Pro Gln Gly Ser Ser Gln Cys Ala Thr Met Glu Leu
61 15 20 25
63 ggg ccc cta gaa ggt ggc tac ctg gag ctt ctt aac agc gat gct gac 267
64 Gly Pro Leu Glu Gly Gly Tyr Leu Glu Leu Leu Asn Ser Asp Ala Asp
65 30 35 40
67 ccc ctg tgc ctc tac cac ttc tat gac cag atg gac ctg gct gga gaa 315
68 Pro Leu Cys Leu Tyr His Phe Tyr Asp Gln Met Asp Leu Ala Gly Glu
69 45 50 55
71 gaa gag att gag ctc tac tca gaa ccc gac aca acc atc aac tgc 363
72 Glu Glu Ile Glu Leu Tyr Ser Glu Pro Asp Thr Asp Thr Ile Asn Cys

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/006,366

DATE: 12/17/2001

TIME: 11:09:46

Input Set : A:\RTS-0332 Sequence Listing.txt

Output Set: N:\CRF3\12172001\J006366.raw

73	60		65		70		75		411								
75	gac	cag	ttc	agc	agg	ctg	ttg	tgt	gac	atg	gaa	ggt	gat	gaa	gag	acc	
76	Asp	Gln	Phe	Ser	Arg	Leu	Leu	Cys	Asp	Met	Glu	Gly	Asp	Glu	Glu	Thr	
77																90	
79	agg	gag	gct	tat	gcc	aat	atc	gcg	gaa	ctg	gac	cag	tat	gtc	ttc	cag	459
80	Arg	Glu	Ala	Tyr	Ala	Asn	Ile	Ala	Glu	Leu	Asp	Gln	Tyr	Val	Phe	Gln	
81																105	
83	gac	tcc	cag	ctg	gag	ggc	ctg	agc	aag	gac	att	ttc	aag	cac	ata	gga	507
84	Asp	Ser	Gln	Leu	Glu	Gly	Leu	Ser	Lys	Asp	Ile	Phe	Lys	His	Ile	Gly	
85																120	
87	cca	gat	gaa	gtg	atc	ggt	gag	agt	atg	gag	atg	cca	gca	gaa	ggt	ggg	555
88	Pro	Asp	Glu	Val	Ile	Gly	Glu	Ser	Met	Glu	Met	Pro	Ala	Glu	Val	Gly	
89																135	
91	cag	aaa	agt	cag	aaa	aga	ccc	ttc	cca	gag	gag	ctt	ccg	gca	gac	ctg	603
92	Gln	Lys	Ser	Gln	Lys	Arg	Pro	Phe	Pro	Glu	Glu	Leu	Pro	Ala	Asp	Leu	
93	140															155	
95	aag	cac	tgg	aag	cca	gct	gag	ccc	ccc	act	gtg	gtg	act	ggc	agt	ctc	651
96	Lys	His	Trp	Lys	Pro	Ala	Glu	Pro	Pro	Thr	Val	Val	Thr	Gly	Ser	Leu	
97																170	
99	cta	gtg	gga	cca	gtg	agc	gac	tgc	tcc	acc	ctg	ccc	tgc	ctg	cca	ctg	699
100	Leu	Val	Gly	Pro	Val	Ser	Asp	Cys	Ser	Thr	Leu	Pro	Cys	Leu	Pro	Leu	
101																185	
103	cct	gcg	ctg	ttc	aac	cag	gag	cca	gcc	tcc	ggc	cag	atg	cgc	ctg	gag	747
104	Pro	Ala	Leu	Phe	Asn	Gln	Glu	Pro	Ala	Ser	Gly	Gln	Met	Arg	Leu	Glu	
105																200	
107	aaa	acc	gac	cag	att	ccc	atg	cct	ttc	tcc	agt	tcc	tcg	ttg	agc	tgc	795
108	Lys	Thr	Asp	Gln	Ile	Pro	Met	Pro	Phe	Ser	Ser	Ser	Ser	Leu	Ser	Cys	
109																215	
111	ctg	aat	ctc	cct	gag	gga	ccc	atc	cag	ttt	gtc	ccc	acc	atc	tcc	act	843
112	Leu	Asn	Leu	Pro	Glu	Gly	Pro	Ile	Gln	Phe	Val	Pro	Thr	Ile	Ser	Thr	
113	220															235	
115	ctg	ccc	cat	ggg	ctc	tgg	caa	atc	tct	gag	gct	gga	aca	ggg	gtc	tcc	891
116	Leu	Pro	His	Gly	Leu	Trp	Gln	Ile	Ser	Glu	Ala	Gly	Thr	Gly	Val	Ser	
117																250	
119	agt	ata	ttc	atc	tac	cat	ggt	gag	gtg	ccc	cag	gcc	agc	caa	gta	ccc	939
120	Ser	Ile	Phe	Ile	Tyr	His	Gly	Glu	Val	Pro	Gln	Ala	Ser	Gln	Val	Pro	
121																265	
123	cct	ccc	agt	gga	ttc	act	gtc	cac	ggc	ctc	cca	aca	tct	cca	gac	cgg	987
124	Pro	Pro	Ser	Gly	Phe	Thr	Val	His	Gly	Leu	Pro	Thr	Ser	Pro	Asp	Arg	
125																280	
127	cca	ggc	tcc	acc	agc	ccc	ttc	gct	cca	tca	gcc	act	gac	ctg	ccc	agc	1035
128	Pro	Gly	Ser	Thr	Ser	Pro	Phe	Ala	Pro	Ser	Ala	Thr	Asp	Leu	Pro	Ser	
129																295	
131	atg	cct	gaa	cct	gcc	ctg	acc	tcc	cga	gca	aac	atg	aca	gag	cac	aag	1083
132	Met	Pro	Glu	Pro	Ala	Leu	Thr	Ser	Arg	Ala	Asn	Met	Thr	Glu	His	Lys	
133	300															315	
135	acg	tcc	ccc	acc	caa	tgc	ccg	gca	gct	gga	gag	gtc	tcc	aac	aag	ctt	1131
136	Thr	Ser	Pro	Thr	Gln	Cys	Pro	Ala	Ala	Gly	Glu	Val	Ser	Asn	Lys	Leu	
137																330	

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/10/006,366

DATE: 12/17/2001
 TIME: 11:09:46

Input Set : A:\RTS-0332 Sequence Listing.txt
 Output Set: N:\CRF3\12172001\J006366.raw

139	cca aaa tgg cct gag ccg gtg gag cag ttc tac cgc tca ctg cag gac	1179
140	Pro Lys Trp Pro Glu Pro Val Glu Gln Phe Tyr Arg Ser Leu Gln Asp	
141	335 340 345	
143	acg tat ggt gcc gag ccc gca ggc ccg gat ggc atc cta gtg gag gtg	1227
144	Thr Tyr Gly Ala Glu Pro Ala Gly Pro Asp Gly Ile Leu Val Glu Val	
145	350 355 360	
147	gat ctg gtg cag gcc agg ctg gag agg agc agc agc aag agc ctg gag	1275
148	Asp Leu Val Gln Ala Arg Leu Glu Arg Ser Ser Ser Lys Ser Leu Glu	
149	365 370 375	
151	cgg gaa ctg gcc acc ccg gac tgg gca gaa cgg cag ctg gcc caa gga	1323
152	Arg Glu Leu Ala Thr Pro Asp Trp Ala Glu Arg Gln Leu Ala Gln Gly	
153	380 385 390 395	
155	ggc ctg gct gag gtg ctg ttg gct gcc aag gag cac cgg cgg ccg cgt	1371
156	Gly Leu Ala Glu Val Leu Leu Ala Ala Lys Glu His Arg Arg Pro Arg	
157	400 405 410	
159	gag aca cga gtg att gct gtg ctg ggc aaa gct ggt cag ggc aag agc	1419
160	Glu Thr Arg Val Ile Ala Val Leu Gly Lys Ala Gly Gln Gly Lys Ser	
161	415 420 425	
163	tat tgg gct ggg gca gtg agc cgg gcc tgg gct tgt ggc cgg ctt ccc	1467
164	Tyr Trp Ala Gly Ala Val Ser Arg Ala Trp Ala Cys Gly Arg Leu Pro	
165	430 435 440	
167	cag tac gac ttt gtc ttc tct gtc ccc tgc cat tgc ttg aac cgt ccg	1515
168	Gln Tyr Asp Phe Val Phe Ser Val Pro Cys His Cys Leu Asn Arg Pro	
169	445 450 455	
171	ggg gat gcc tat ggc ctg cag gat ctg ctc ttc tcc ctg ggc cca cag	1563
172	Gly Asp Ala Tyr Gly Leu Gln Asp Leu Leu Phe Ser Leu Gly Pro Gln	
173	460 465 470 475	
175	cca ctc gtg gcg gcc gat gag gtt ttc agc cac atc ttg aag aga cct	1611
176	Pro Leu Val Ala Ala Asp Glu Val Phe Ser His Ile Leu Lys Arg Pro	
177	480 485 490	
179	gac cgc gtt ctg ctc atc cta gac gcc ttc gag gag ctg gaa gcg caa	1659
180	Asp Arg Val Leu Leu Ile Leu Asp Ala Phe Glu Glu Leu Glu Ala Gln	
181	495 500 505	
183	gat ggc ttc ctg cac agc acg tgc gga ccg gca ccg gcg gag ccc tgc	1707
184	Asp Gly Phe Leu His Ser Thr Cys Gly Pro Ala Pro Ala Glu Pro Cys	
185	510 515 520	
187	tcc ctc cgg ggg ctg ctg gcc ggc ctt ttc cag aag aag ctg ctc cga	1755
188	Ser Leu Arg Gly Leu Leu Ala Gly Leu Phe Gln Lys Lys Leu Leu Arg	
189	525 530 535	
191	ggt tgc acc ctc ctc ctc aca gcc ccg ccc ccg ggc cgc ctg gtc cag	1803
192	Gly Cys Thr Leu Leu Leu Thr Ala Arg Pro Arg Gly Arg Leu Val Gln	
193	540 545 550 555	
195	agc ctg agc aag gcc gac gcc cta ttt gag ctg tcc ggc ttc tcc atg	1851
196	Ser Leu Ser Lys Ala Asp Ala Leu Phe Glu Leu Ser Gly Phe Ser Met	
197	560 565 570	
199	gag cag gcc cag gca tac gtg atg cgc tac ttt gag agc tca ggg atg	1899
200	Glu Gln Ala Gln Ala Tyr Val Met Arg Tyr Phe Glu Ser Ser Gly Met	
201	575 580 585	
203	aca gag cac caa gac aga gcc ctg acg ctc ctc ccg gac ccg cca ctt	1947

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/006,366

DATE: 12/17/2001

TIME: 11:09:46

Input Set : A:\RTS-0332 Sequence Listing.txt

Output Set: N:\CRF3\12172001\J006366.raw

204	Thr	Glu	His	Gln	Asp	Arg	Ala	Leu	Thr	Leu	Leu	Arg	Asp	Arg	Pro	Leu		
205			590					595					600					
207	ctt	ctc	agt	cac	agc	cac	agc	cct	act	ttg	tgc	cgg	gca	gtg	tgc	cag	1995	
208	Leu	Leu	Ser	His	Ser	His	Ser	Pro	Thr	Leu	Cys	Arg	Ala	Val	Cys	Gln		
209			605					610					615					
211	ctc	tca	gag	gcc	ctg	ctg	gag	ctt	ggg	gag	gac	gcc	aag	ctg	ccc	tcc	2043	
212	Leu	Ser	Glu	Ala	Leu	Leu	Glu	Leu	Gly	Glu	Asp	Ala	Lys	Leu	Pro	Ser		
213			620					625					630					
215	acg	ctc	acg	gga	ctc	tat	gtc	ggc	ctg	ctg	ggc	cgt	gca	gcc	ctc	gac	2091	
216	Thr	Leu	Thr	Gly	Leu	Tyr	Val	Gly	Leu	Gly	Arg	Ala	Ala	Leu	Asp			
217								640					645					
219	agc	ccc	ccc	ggg	gcc	ctg	gca	gag	ctg	gcc	aag	ctg	gcc	tgg	gag	ctg	2139	
220	Ser	Pro	Pro	Gly	Ala	Leu	Ala	Glu	Leu	Ala	Lys	Leu	Ala	Trp	Glu	Leu		
221				655					660					665				
223	ggc	cgc	aga	cat	caa	agt	acc	cta	cag	gag	gac	cag	ttc	cca	tcc	gca	2187	
224	Gly	Arg	Arg	His	Gln	Ser	Thr	Leu	Gln	Glu	Asp	Gln	Phe	Pro	Ser	Ala		
225				670					675				680					
227	gac	gtg	agg	acc	tgg	gcg	atg	gcc	aaa	ggc	tta	gtc	caa	cac	cca	ccg	2235	
228	Asp	Val	Arg	Thr	Trp	Ala	Met	Ala	Lys	Gly	Leu	Val	Gln	His	Pro	Pro		
229				685				690					695					
231	cgg	gcc	gca	gag	tcc	gag	ctg	gcc	ttc	ccc	agc	ttc	ctc	ctg	caa	tgc	2283	
232	Arg	Ala	Ala	Glu	Ser	Glu	Leu	Ala	Phe	Pro	Ser	Phe	Leu	Leu	Gln	Cys		
233				700				705					710					
235	ttc	ctg	ggg	gcc	ctg	tgg	gct	ctg	agt	ggc	gaa	atc	aag	gac	aag		2331	
236	Phe	Leu	Gly	Ala	Leu	Trp	Leu	Ala	Leu	Ser	Gly	Glu	Ile	Lys	Asp	Lys		
237				720					725				730					
239	gag	ctc	ccg	cag	tac	cta	gca	ttg	acc	cca	agg	aag	agg	ccc	tat		2379	
240	Glu	Leu	Pro	Gln	Tyr	Leu	Ala	Leu	Thr	Pro	Arg	Lys	Lys	Arg	Pro	Tyr		
241				735					740				745					
243	gac	aac	tgg	ctg	gag	ggc	gtg	cca	cgc	ttt	ctg	gct	ggg	ctg	atc	ttc	2427	
244	Asp	Asn	Trp	Leu	Glu	Gly	Val	Pro	Arg	Phe	Leu	Ala	Gly	Leu	Ile	Phe		
245				750				755					760					
247	cag	cct	ccc	gcc	cgc	tgc	ctg	gga	gcc	cta	ctc	ggg	cca	tgc	gcg	gct	2475	
248	Gln	Pro	Pro	Ala	Arg	Cys	Leu	Gly	Ala	Leu	Leu	Gly	Pro	Ser	Ala	Ala		
249				765				770					775					
251	gcc	tgc	gtg	gac	agg	aag	cag	aag	gtg	ctt	gcg	agg	tac	ctg	aag	cgg	2523	
252	Ala	Ser	Val	Asp	Arg	Lys	Gln	Lys	Val	Leu	Ala	Arg	Tyr	Leu	Lys	Arg		
253				780				785					790					
255	ctg	cag	ccg	ggg	aca	ctg	cgg	gcg	cgg	cag	ctg	ctt	gag	ctg	ctg	cac	2571	
256	Leu	Gln	Pro	Gly	Thr	Leu	Arg	Ala	Arg	Gln	Leu	Leu	Glu	Leu	Leu	His		
257								800					805					
259	tgc	gcc	cac	gag	gcc	gag	gag	gct	gga	att	tgg	cag	cac	gtg	gta	cag	2619	
260	Cys	Ala	His	Glu	Ala	Glu	Glu	Ala	Gly	Ile	Trp	Gln	His	Val	Val	Gln		
261				815					820				825					
263	gag	ctc	ccc	ggc	cgc	ctc	tct	ttt	ctg	ggc	acc	cgc	ctc	acg	cct	cct	2667	
264	Glu	Leu	Pro	Gly	Arg	Leu	Ser	Phe	Leu	Gly	Thr	Arg	Leu	Thr	Pro	Pro		
265				830				835					840					
267	gat	gca	cat	gta	ctg	ggc	aag	gcc	ttg	gag	gcg	gcg	ggc	caa	gac	ttc	2715	
268	Asp	Ala	His	Val	Leu	Gly	Lys	Ala	Leu	Glu	Ala	Ala	Gly	Gln	Asp	Phe		

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/006,366

DATE: 12/17/2001
TIME: 11:09:46

Input Set : A:\RTS-0332 Sequence Listing.txt
Output Set: N:\CRF3\12172001\J006366.raw

269	845	850	855	2763
271	tcc ctg gac ctc cgc agc act ggc att tgc ccc tct gga ttg ggg agc			
272	Ser Leu Asp Leu Arg Ser Thr Gly Ile Cys Pro Ser Gly Leu Gly Ser			
273	860	865	870	875
275	ctc gtg gga ctc agc tgt gtc acc cgt ttc agg gct gcc ttg agc gac			2811
276	Leu Val Gly Leu Ser Cys Val Thr Arg Phe Arg Ala Ala Leu Ser Asp			
277		880	885	890
279	acg gtg gcg ctg tgg gag tcc ctg cgg cag cat ggg gag acc aag cta			2859
280	Thr Val Ala Leu Trp Glu Ser Leu Arg Gln His Gly Glu Thr Lys Leu			
281		895	900	905
283	ctt cag gca gca gag gag aag ttc acc atc gag cct ttc aaa gcc aag			2907
284	Leu Gln Ala Ala Glu Glu Lys Phe Thr Ile Glu Pro Phe Lys Ala Lys			
285		910	915	920
287	tcc ctg aag gat gtg gaa gac ctg gga aag ctt gtg cag act cag agg			2955
288	Ser Leu Lys Asp Val Glu Asp Leu Gly Lys Leu Val Gln Thr Gln Arg			
289		925	930	935
291	acg aga agt tcc tcg gaa gac aca gct ggg gag ctc cct gct gtt cgg			3003
292	Thr Arg Ser Ser Ser Glu Asp Thr Ala Gly Glu Leu Pro Ala Val Arg			
293	940	945	950	955
295	gac cta aag aaa ctg gag ttt gcg ctg ggc cct gtc tca ggc ccc cag			3051
296	Asp Leu Lys Lys Leu Glu Phe Ala Leu Gly Pro Val Ser Gly Pro Gln			
297		960	965	970
299	gct ttc ccc aaa ctg gtg cgg atc ctc acg gcc ttt tcc tcc ctg cag			3099
300	Ala Phe Pro Lys Leu Val Arg Ile Leu Thr Ala Phe Ser Ser Leu Gln			
301		975	980	985
303	cat ctg gac ctg gat gcg ctg agt gag aac aag atc ggg gac gag ggt			3147
304	His Leu Asp Leu Asp Ala Leu Ser Glu Asn Lys Ile Gly Asp Glu Gly			
305		990	995	1000
307	gtc tcg cag ctc tca gcc acc ttc ccc cag ctg aag tcc ttg gaa acc			3195
308	Val Ser Gln Leu Ser Ala Thr Phe Pro Gln Leu Lys Ser Leu Glu Thr			
309		1005	1010	1015
311	ctc aat ctg tcc cag aac aac atc act gac ctg ggt gcc tac aaa ctc			3243
312	Leu Asn Leu Ser Gln Asn Asn Ile Thr Asp Leu Gly Ala Tyr Lys Leu			
313	1020	1025	1030	1035
315	gcc gag gcc ctg cct tcg ctc gct gca tcc ctg ctc agg cta agc ttg			3291
316	Ala Glu Ala Leu Pro Ser Leu Ala Ala Ser Leu Leu Arg Leu Ser Leu			
317		1040	1045	1050
319	tac aat aac tgc atc tgc gac gtg gga gcc gag agc ttg gct cgt gtg			3339
320	Tyr Asn Asn Cys Ile Cys Asp Val Gly Ala Glu Ser Leu Ala Arg Val			
321		1055	1060	1065
323	ctt ccg gac atg gtg tcc ctc cgg gtg atg gac gtc cag tac aac aag			3387
324	Leu Pro Asp Met Val Ser Leu Arg Val Met Asp Val Gln Tyr Asn Lys			
325		1070	1075	1080
327	ttc acg gct gcc ggg gcc cag cag ctc gct gcc agc ctt cgg agg tgt			3435
328	Phe Thr Ala Ala Gly Ala Gln Gln Leu Ala Ala Ser Leu Arg Arg Cys			
329		1085	1090	1095
331	cct cat gtg gag acg ctg gcg atg tgg acg ccc acc atc cca ttc agt			3483
332	Pro His Val Glu Thr Leu Ala Met Trp Thr Pro Thr Ile Pro Phe Ser			
333	1100	1105	1110	1115

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/006,366

DATE: 12/17/2001

TIME: 11:09:47

Input Set : A:\RTS-0332 Sequence Listing.txt

Output Set: N:\CRF3\12172001\J006366.raw

L:13 M:270 C: Current Application Number differs, Replaced Current Application No
L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:580 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:14